

MEMORANDUM**CH2M HILL**

TO: Norm Buckholtz/Longview Fibre, Seattle
Jim Mantell/

COPIES: Dave Mendenhall/Longview Fibre, Longview

FROM: Mike Warfel/CH2M HILL, Bellevue *mw*

DATE: March 22, 1993

SUBJECT: Seattle Plant Diesel Fuel Remediation, Groundwater Testing Program

PROJECT: SEA31443.AA

Norm, Jim, and I met at the Seattle plant on March 8 to discuss steps to be taken to facilitate pumping of the remaining product recovery sump (S-7), which is located inside the east loading dock at the plant. Jim and I examined the area of the sump and loading dock to assess potential pumping and discharge scenarios. The following summarizes our discussions and presents a proposed approach to testing the sump.

Purpose

Diesel-contaminated soil from the boiler fuel tank spill was excavated and disposed of last fall. In order to evaluate the effectiveness of this remediation, an assessment of diesel fuel floating on groundwater and of dissolved concentrations of total petroleum hydrocarbons (TPH) in groundwater will be conducted by pumping the remaining recovery sump (S-7). The results of this assessment will allow potential future groundwater remediation requirements to be evaluated with more certainty than is possible using existing data.

Testing Program Outline

1. Remove floating diesel from sump.
 - 1.1 Measure thickness of diesel, depth to water, and total depth of sump with water paste and tape; record all measurements. (Observations by Jim Mantell on March 8 indicate a diesel thickness of less than 1/4 inch.)
 - 1.2 Use absorbent pads to soak up diesel until visible diesel is gone. Store used pads in an appropriate container.
 - 1.3 Allow sump to stabilize overnight. Check in morning for presence of diesel on water. If diesel is present, repeat steps 1.1 through 1.3 until diesel is gone. Record all observations.

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- 1.3 Properly pack used pads and send to Longview Mill for burning in boilers.
- 1.4 Call Mike Warfel at CH2M HILL once floating diesel has dissipated.
2. Collect Baseline Groundwater Sample
 - 2.1 Clean bailer with mild soap solution and rinse with tap water until all traces of detergent are gone (at least 3 complete rinses).
 - 2.2 Attach clean string or twine to bailer.
 - 2.3 Obtain clean Mason jar, 16-ounce size, or equivalent.
 - 2.4 Measure thickness of diesel, depth to water, and total depth of sump with water paste and tape; record all measurements.
 - 2.5 Collect sample by submersing bailer into sump. Fill sample jar to bottom of neck. Close jar lid tightly.
 - 2.6 Record on jar (with permanent marker) and in log book: Sump 7, sample number (first sample will be No. 1), date, time.
 - 2.7 Refrigerate sample. CH2M HILL will arrange for pickup and delivery of sample to the laboratory. CH2M HILL courier will also bring sample chain of custody form which must accompany sample to lab. Fill out chain of custody form (see attached example) and sign at bottom as initial person who had contact with the sample.
 - 2.8 Remove string from bailer. Clean bailer for next sampling event.
3. Set up pumping system.
 - 3.1 Obtain suction pump and hose.
 - 3.2 Set up pump and hose to run from sump near loading dock door to floor drain near waste cardboard bailing machine (floor drain discharges to sanitary sewer). Attach strainer to suction end of hose and place in well.
 - 3.3 Obtain 5-gallon bucket to measure pump flow. Confirm that bucket holds 5 gallons, and mark the 5-gallon level on the bucket with a permanent marker.

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4. Operate pumping system--Startup Day

- 4.1 Measure thickness of diesel, depth to water, and total depth of sump with water paste and tape; record all measurements.
- 4.2 Begin pumping. Record time that pumping starts.
- 4.3 Adjust the flow rate on the pump as low as possible. Even at this low rate, the pump will probably produce a steady initial flow until the water initially standing in the sump is pumped out. The pumping rate will then probably drop off as the water slowly recharges into the sump.

Measure and record the initial flow rate of the pump by recording the amount of time required to fill the bucket to the 5-gallon mark. Record the amount of time required for the pump to empty the initial volume of water in the sump. After the initial sump volume is pumped out, measure and record the flow rate as the sump recharges. This may take quite a bit longer than when the pump was flowing full. The objective is to estimate the actual pumping rate of the pump as it is left on throughout the day, pumping at the slower rate that is limited by the rate at which the sump recharges itself.

- 4.4 Check for evidence of diesel in the bucket. If significant amounts of diesel are observed, stop the pump and call Mike Warfel at CH2M HILL. In this situation, a skimming tank will need to be set up to prevent the diesel from entering the sanitary sewer.
- 4.5 If no significant diesel is observed, the flow rates have been successfully recorded, and the pump is operating correctly, leave the pump on for the day. At the end of the shift, check the flow rate again and record the information. Collect a check sample (for observation purposes only) in a clean jar. Label the jar with the date and time. Store the jar for future reference (check samples do not need to be refrigerated). Turn the pump off and secure the pumping equipment.

5. Operate pumping system--After Startup Day

- 5.1 Measure thickness of diesel, depth to water, and total depth of sump with water paste and tape; record all measurements.
- 5.2 Begin pumping. Record time that pumping starts. Adjust pump to lowest

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rate, to match the recharge rate of the sump as closely as possible. There is no need to measure the flow rate again, unless the pump speed or other pump conditions change significantly from the initial flow calibration completed on the first day of pumping.

5.3 Following the procedures as in sections 4.4 and 4.5 above.

6.0 Duration of Pumping

6.1 Operate the pumping system daily for 5 working days.

6.2 On the mornings of the 6th day and after the 10th day, collect second and third samples for laboratory analysis (follow section 2 procedures). Call CH2M HILL once the lab samples are collected, so that delivery arrangements can be made.

6.3 Retain the daily check samples for evaluation.

DATA FORMS FOR ASSESSMENT OF SUMP S-7 (Near East Loading Dock)

PUMPING SYSTEM OPERATION SUMMARY

[illegible]

CH2M HILL

QUALITY ANALYTICAL LABORATORIES

CHAIN OF CUSTODY RECORD AND AGREEMENT TO PERFORM SERVICES

CH2M HILL Project # SEA 31443.AA		Purchase Order #
Object Name Longview Fibre/Seattle, WA		
Company Name/CH2M HILL Office		
Object Manager & Phone # 7.11 8.11 9.11		Report Copy to: m. Warfel
Requested Completion Date:	Sampling Requirements SDWA NPDES RCRA OTHER <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Sample Disposal: Dispose Return <input type="checkbox"/> <input type="checkbox"/>

Sampling		Type	Matrix	CLIENT SAMPLE ID (9 CHARACTERS)	
Date	Time	COM P	GRAB B		WATER R
23- 93	8:35 Am	XX		SUMP 7, S1	

LAB TEST CODES										SHADED AREA - FOR LAB USE ONLY			
										Lab 1 #		Lab 2 #	
										Quote #		KH Request #	
ANALYSES REQUESTED										Project #			
										No. of Samples		Page of	
										COC Rev		Login	
										LMS Ver		Ack Gen	
										REMARKS		LAB 1 ID	
												LAB 2 ID	
<div style="position: relative; height: 100px;"> <div style="position: absolute; top: 0; left: 0; width: 100%; height: 100%; transform: rotate(-45deg); opacity: 0.5; font-size: 4em; font-weight: bold;">EXAMPLE FORM</div> </div>													

Received By & Title (Please sign and print name)	Date/Time	Relinquished By (Please sign and print name)	Date/Time	HAZWRAPNESSA: Y N OC Level: 1 2 3 Other: _____ COC Rec ICE Ans Req TEMP Cust Seal Ph
Received By (Please sign and print name)	Date/Time	Relinquished By (Please sign and print name)	Date/Time	
Received By (Please sign and print name)	Date/Time	Relinquished By (Please sign and print name)	Date/Time	
Received By (Please sign and print name)	Date/Time	Shipped Via UPS BUS Fed-Ex Hand Other _____	Shipping #	
Perk Authorized By (Please sign and print name)	Remarks			

Instructions and Agreement Provisions on Reverse Side

DISTRIBUTION: ORIGINAL - LAB, Yellow - LAB, Pink - Client
REV 11/02 FORM 340

MAR-22-'93 MON 16:39 ID:CH2M HILL SEATTLE TEL NO:206 462 5957 #572 P09

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